

REMARKS

Claims 1-11 are pending, with Claims 6-10 having been withdrawn from consideration as being directed to a non-elected invention. Claims 1, 5 and 11 have been amended. Support for the claim changes can be found in the original disclosure, and therefore no new matter has been added. Claims 1, 5, 6, 8, 10 and 11 are in independent form.

In the final Office Action dated January 24, 2006, Claims 1-4 and 11 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,060,735 (*Izuha et al.*), and Claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over *Izuha et al.* in view of U.S. Patent No. 6,398,349 (*Murai*). In view of those rejections, Applicants respectfully submit the following remarks.

Applicants submit that independent Claims 1, 5 and 11 are patentable over the cited art for at least the following reasons.

Independent Claim 1 recites, *inter alia*, that a region where crystals of a lower electrode and/or an upper electrode and crystals of a piezoelectric film are mixed exists between the lower electrode and/or the upper electrode and the piezoelectric film, and that the mixed region spreads in a direction of thickness of the piezoelectric film. Each of independent Claims 5 and 11 recites the same language.

Izuha et al. relates to a thin film dielectric device including a lower electrode, a dielectric thin film, and an upper electrode. Crystal grains of one layer are epitaxially grown on crystal grains of an underlying layer, and the lattice constants of one layer are substantially matched with the lattice constants of the underlying layer at the interface therebetween. It is noted that Fig. 4A of *Izuha et al.* shows that the layers are in contact with each other.

Accordingly, *Izuha et al.* is not understood to teach or suggest the above-noted feature recited in independent Claims 1, 5 and 11, namely, that a region (where crystals of a lower electrode and/or an upper electrode and crystals of a piezoelectric film are mixed, existing between the lower electrode and/or the upper electrode and the piezoelectric film) spreads in a direction of thickness of the piezoelectric film.

Murai was cited in the Office Action (page 5) as teaching an ink jet printing head comprising a pressure chamber, nozzle, diaphragm and ink. Nothing in *Murai* is understood to remedy the above-discussed deficiency of *Izuha et al.* with respect to independent Claims 1, 5 and 11.

Since neither *Izuha et al.* nor *Murai* contains all of the elements of any of independent Claims 1, 5 and 11, those claims are believed to be allowable over those documents.

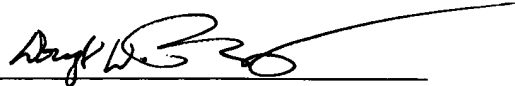
A review of the other art of record has failed to reveal anything which, in Applicants' opinion, would remedy the deficiencies of the art discussed above, as references against independent Claims 1, 5 and 11. Independent Claims 1, 5 and 11 are therefore believed patentable over the art of record.

The other claims presented for examination are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each of these dependent claims is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Douglas W. Pinsky', is written over a horizontal line.

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